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DISCOVERIES AND CURRENT EVENTS *

French North Africa: The Desert Locust (*Schistocerca gregaria*) (1).

ALGERIA.

1 April 1933 — Laying reported in the Oued en Nsi (50 km N. E. of Ghardaïa).
A red and yellow swarm coming from the W. settled in the Oued M' Zab (5 km. W. of Ghardaïa). Departed on 3 April.
Two large swarms settled, one 2 km to the N. of Khanga Sidi Nadji, the other at Si Boui Ahmed (Khenchela). Departed on the 2nd, flying W.
Large swarms reported to the S. of the Douar Branes (Aïn-Touta). Copulation on 4 April.
Two swarms settled, one at the Oued Bougour, the other at Ich ou Augak (Douar Aliennas, Khenchela). Copulation and laying.

2 » » — A swarm settled on 31 March at the Douar Madena (Frenda) flew away to the S. E.

3 » » — A swarm settled between Kaf el Guernâa and Oued Did (15 km N. E. of Ouled Djellal).
A swarm settled at Ras Tachet (Khenchela). Copulation and laying.

4 » » — Two small swarms coming from the S. settled 5 km to the E. of Merrara (Touggourt).
A swarm settled at the Douar Kangha Sisi Nadji (Khenchela) and laid over 20 hectares.
A swarm settled at Oued el Melah, Douar Ouldja (Khenchela) and laid over 20 hectares.

5 » » — A swarm settled to the S. of the Douar Ouldja (Khenchela) and laid over 15 hectares.

6 » » — A small swarm settled near Bourguern (50 km N. of Mecheria) and laid over 5 hectares.
A large swarm, coming from the E. settled at Hadjeret Salah, Douar Tadjemout (Arris). Laid on 8 April over 350 hectares.

* Under this and the next heading the countries are arranged in French alphabetical order.

(1) Communication from the Government General of Algeria (Direction des Services Economiques) to the International Institute of Agriculture.

6 April 1933 — Laying reported to the S. of the Douar Tadjemout (Arris) over 3 km × 150 m.
Laying at the Douar Taberga (Khenchela) over 25 hectares.

7 » » — Numerous swarms settled at the Douars El Outaya, Branis, Gueddiea and El Kantara (Aïn-Touta).
Laying reported at the Douars Branis and El Outaya (Aïn-Touta).
Laying reported at Khiaber, 150 km S. of Messaad (Djelfa) over about 100 hectares.
A small swarm settled at Chedded, Douar Meguisba (60 km S. of El Ousseukh-Trézel).
Laying reported at Titen Yaya and at Bedeau (Le Télagh) over 100 hectares and 10 hectares.
A large swarm coming from the S. W. settled at 4 p. m. at El Hassi, Dour Bitam (Barika). Laid on the 9th over 400 hectares.
A large swarm coming from the S. settled at Meleh between Oued Semara and Defila (Barika).

8 » » — A small swarm coming from the S. E. passed the Douars Menaa and Chir (Arris).
A large swarm settled at Fehj el Ma, Douar M'Chounèche (Arris) and laid.
A swarm settled at Oued Naâm (40 km N. of Ouled Djellal) and laid over 2 km × 400 m.
A small swarm passed at 11 a. m. over Tadjertila, Douar Khémis (Marnia) flying E.
A large swarm coming from the S. W. settled at 11 a. m. on the E. side of the Djebel Amar, Douar Bitam (Barika).
Laying reported at El Ghaïcha (Aflou).
A swarm settled at 5 km S. of Aflou.
The swarm, reported at the Oued Chergui (40 km S. E. of Aflou) laid and flew away to the E.
A small swarm coming from the S. E. settled at the Djebel Sfar (3 km S. E. of Barika) and laid over 600 hectares.
A swarm settled at Chaabet El Bidhia (12 km W. of Ghardaïa). Laid over 200 m. and departed on the 9th.

9 » » — A small swarm coming from the S. settled near Biskra.
Two large swarms coming from the S. W. settled at Hemaret Moussakh and Nebech, Douar Bitan (Barika). Laid on the 13th over 30 hectares.
A small swarm coming from the S. W. settled at Daya, Douar Bitam (Barika).
A very large swarm coming from the S. E. settled at Selaouine, Douar Bitam (Barika). Laid on the 11th over 100 hectares.

10 » » — Large swarms coming from the E. settled at Sidi Harab, Oum Sayoud and Tafesa, Douar Oulache (Aïn-Touta).

10 April 1933 — Serious laying reported at Douar Kimmel, El Outaya, Branis and Gueddila (Aïn-Touta).

Very large swarms coming from the S. settled at Hama Labibat, Nebka and Oued Lahmar, Douar M'Doukal (Barika).

Laying reported at various points 35 km to the S. S. E. of Guardaïa.

Laying reported at Bedeau (Le Télagh).

11 » » — A small swarm coming from the S. E. settled at the Douar Segana (Barika) and departed towards the N.

A swarm settled at Rosfa (25 km S. of Aflou) and laid over 1500 × 200 m.

A large swarm settled at Sidi Sliman (75 km E. of Geryville). Departed on the 14th flying N.

Slight laying reported at the Oued Seba and the Oued Dine (20 km N. E. of Ghardaïa).

Important hatching reported at Bir Bousbia, Djerara, over 2500 hectares, Bir Chibai, Oglet Messaba (20 to 35 km S. of Négrine-Tébessa).

Laying reported at the Douar Aliennas (Khenchela) over 100 hectares.

Laying reported at Enfidat Necer ben Belkacem, Douar Ouldja (Khenchela) over 200 hectares.

A very large swarm coming from the S. E. settled et Dayaet, Douar Bitan (Barika) over 14 km.

A very large swarm coming from the S. settled at the Douar M'Doukal (Barika) and laid over 700 hectares. Departed on the 13th flying N.

Large swarms coming from the S. settled at Oued Harnia and Djebel Siadi and Oued ben Youcef, Douar N'Doukal (Barika) covering 250 and 3000 hectares. Copulation and laying.

12 » » — A swarm coming from the S. settled at the Douar Metkaouak (Barika).

A swarm passed over the Douar Aïn Kelba (Barika) flying W.

Hatching at Foum Aïn el Guitoune, Douar Aliennas (Khenchela).

Laying reported near Ferkane (165 hectares), at the Douar Behiret el Arneb (100 hectares) and Bir Kbedama (400 hectares) (Tébessa).

13 » » — Laying reported at El Horchane (over 50 hectares, at Kaf Kidoum (over 600 hectares), at Oued Ghiboud (over 200 hectares). Douar Ouled Sidi Abid (Tébessa).

A swarm coming from the S. settled at Douar Aïn Kelba (Barika) and departed flying S. W.

Laying reported at Teniet and Tine, Foum Ezguag, Delaiet Salem (Barika) over 100 hectares.

A swarm settled at Marmala, Douar Djezzar (Barika) and departed flying N.

13 April 1933 — Isolated individuals carried by a S. wind reported at the Douar Ouled Moussa and Chemora (Aïn el Ksar).
A yellow swarm coming from the S. settled at 5 p. m. at Zenina (100 km W. of Djelfa).
A yellow swarm coming from the S. settled at 3 p. m. at Teniet Bent Salah (20 km W. of Messaâd).
The swarm reported at Bedeau since 23 March departed towards the N. E. and settled in the forest of Tanazizine (Le Télagh).

14 » » — A swarm coming from the S. settled near Selmane, Douar M'Sif (M'Sila).
A swarm settled in the regions of the Pins, Magenta (Le Télagh). Departed on the 19th at 2 p. m. flying N.
A swarm settled at Draa Remel, Dou ar Aïn Kelba (Barika) and laid over 100 hectares.
A swarm settled at Zebaret Messaouda, Douar Metkaouak (Barika) and laid over 300 hectares.
A yellow swarm coming from the S. settled at the Ksar Amra, 8 km W. of Aïn El Ibel (Djelfa) covering 600 hectares.
A yellow swarm coming from the S. settled at Hadjeb El Hemr, 20 km S. W. of Ain El Ibel (Djelfa) covering 300 hectares.

15 » » — A small swarm coming from the S. W. settled in the evening at Tazourit, Douar Merouana (Balezama). Departed on the 16th at 1 p.m.flying E.
Laying reported at Ramlia, Douar Aïn Kelba (Barika) over 50 hectares.
Swarms settled at Cida, Logra Bia and 13 km N. W of Sidi Khaled (region of Ouled Djellal).
A swarm settled at Chohra, Douar Oulad Sliman (Bou-Saâda) and laid over 300 hectares.
A swarm settled near Batna. Departed on the 18th flying S.
A swarm coming from the S. settled at Djebel Said, Douar M'Doukal (Barika) and laid over 100 hectares.
Laying reported from 15 to 22 April at Djafa over 880 hectares and at Nedjaouïa over 1000 hectares.

16 » » — Swarms settled at Douar Aïn Kelba (Barika) and laid over 1800 hectares.
A very small swarm passed Ras el Aïoun (Belezma) and flew S.
A swarm coming from the S. passed Coudiat Tesfa, Douar Hamma (Rhira) and flew away S.
A swarm coming from the S. settled at Feif, Ouled Hamida, Douar Ouled Addi Guebada (M'Sila) and laid over 3 hectares.
Laying reported at the Oulad Sisi Hamza, Oulad Mimoun Gueraba, Oulad Ali ben Ameur, and Oulad Sidi Naceur (Aflou).
The swarm settled on 14 April laid at Ksar Amra, 8 km W. of Aïn El Ibel (Djelfa) over 300 hectares.

16 April 1933 — Hatching reported at Daïet Mira, to the S. of El Haouch (Biskra) over 50 square metres.

Swarms settled at Chebket, Drabine and Oued Hania, Douar M' Doukal (Barika) and laid over 100 hectares,

17 » » — Somewhat large swarms settled at the Douars Magra and Berhoum (Barika) and laid over 300 and 200 hectares.

Swarms settled at Douar Metkaouak (Barika) and laid over 55 hectares.

Slight hatching reported in the Oued Sebest (40 km S. W. of Ghardaïa).

A yellow swarm coming from the S. settled at 1 p. m. at Boudrie, 30 km E. of Sidi Makhlouf (Djelfa) covering 6 × 2 km.

A yellow swarm coming from the S. E. settled at midday at Tilsitt, 2 km N. W. of Seïar (Khenchela) and laid from 17 to 19 April.

18 » » — Hatching reported at Aïssa Goegogou (55 km S. E. of Ghardaïa).

A large swarm coming from the S. passed at 3 p. m. over the Douar Yabous (Khenchela) flying N. E.

Very dense hatching reported at Touïla, Foum Zarif, Aleb El Adjel, El Melah, El Haouich, Demtsa (between 4 and 15 km S. and S. E. of Négrine-Tébessa).

Swarms coming from the S. settled at the Douar M'Cif (M'Sila and laid in various places.

Small swarms coming from the E. settled at the Douars Bou-Saâda, Ouled M'hamed, Elmebarek, Ouled Sisi-Brahim (Bou-Saâda).

A swarm coming from the W. settled at the Douar Aliennas (Khenchela) and laid over 2 hectares.

Hatching reported at Braâ Boucif, 6 km S. W. of Zanina (Djelfa) over 25 hectares.

19 » » — A swarm settled in the Oueds Bouguerah and Chabount, Douar Aliennas (Khenchela). Copulation and laying.

A swarm coming from the S. settled at 6 a. m. at Oued Meklaza and Chalat E. Dalak (10 km from Seïar-Khenchela). Laid on the 20th and departed flying N.

Laying reported at El Hiouhi, 20 km N. of Tadmit (Djelfa) over 20 hectares.

Small swarm coming the W. (Morocco) settled at Machlouba and Msaref, Douar Beni Bou-Saïd (Marnia) and flew W. (Morocco).

Laying reported at Bir Oum el Idami (125 hectares) and Guelta Baten (100 hectares) (Barika).

Laying reported at Ighlia in the valley of the Oued el Arab (Khenchela) over 25 hectares.

A small swarm coming from the E. reported at the Douar Amrès (Sisi-Aïssa).

Large swarms reported towards Slissen (Le Télagh).

19 April 1933 — Large swarms coming from the S. settled at the Douar Maâdid (Maâdid).

Hatching reported in the Oued Metlili (30 km S. W. of Ghardaïa. over 2 km.

A large swarm coming from the S. settled at Rous El Kebour, 25 km E. of Tadmit (Djelfa). Laid on the 20th over 100 hactares.

A swarm coming from the S. settled at the Douar Bou Taleb (Rhira) and laid.

20 » » — A very small swarm settled in the evening at Draa Mekla, Douar Ras el Aïoun (Bélezma). Departed on the 21st in the morning flying S.

Laying reported at Chabet Dib (10 hectares), Coudiat Dehbla (7 hectares), at the Douar Ouithène and at Sidi Brahim and Chegonfa (9 hectares), at the Douar Selmane (M' Sila).

A large swarm passed at the Douar M'Doukal (Barika) flying N.

Laying (exact date not known) reported at the Douars M'Chounéche (2900 hectares), Oulache (3000 hectares), Tadjemout (700 hectares), Kimel (2000 hactares) (Aurès).

Laying reported at Dakhla (500 hectares) and Reg (600 hectares) Douar Ouled Sidi Abid (Tébessa).

A very large swarm coming from the W. passed over the N. of the annex of Laghouat, flying E.

Swarm reported in the Douar of Taouzient (Khenchela), flying N.

A swarm coming from the S. E. settled in the Douar Ouled Asdi Guebala (M'Sila) and laid at various points.

A large yellow swarm coming from the S. settled at Mekam Hadj Abdelkader, 7 km N. E. of Zenina (Djelfa) covering 3 × 3 km.

Laying reported at Aïn Roumia, Sed Oulad Bloul Zeira near Aïn el Ibel (Djelfa) over 150 hectares.

A swarm of some size settled at the Douar Ouled Chellih (Aïn Touta) and flew away towards the N. E.

A somewhat large swarm settled at Dit Ahmed ben Hadj Douar el Ksous (Aïn-Touta) and flew S.

Two swarms settled at Ouzrir Tagrout and Aourirt, Douar Tahament (Aïn-Touta), copulated and laid.

A swarm coming from the S. settled at Oum Latem, Douar Hamma (Rhira) and flew away S.

Laying reported in the Douars Barika (400 hectares) and Magra (1600 hectares) (Barika).

Hatching reported at the Djebel Halleb and Oued Enn Sigha, 10 and 15 km from Seïar (Khenchela).

Hatching reported from 20 to 25 April at Tirimbou, Aïdoul, Tagzirt, Chaba el Hamra, near Khanga Sidi Nadji (Khenchela).

20 April 1933 — General hatching reported in the region of Négrine (Tébessa).

21 » » — Very large swarms reported between Biskra and Touggourt (Biskra) flying N. N. W.

Large swarms coming from the E. settled in the Douars N' Gaous and Cosbate (Barika).

Laying reported at El Ateuf Gharbi, 5 km W. of Zenina (Dijelfa) over 50 hectares.

A swarm settled at Sidi Rehab, Douar Bou Taleb (Rhira) covering 5 hectares.

Much hatching reported in the region of Boudoukhane (Khenchela).

Laying reported at the Douars Ouled Chelih (40 hectares), Victor Duruy (30 hectares), Tahanent (500 hectares), El Ksour (Aïn Touta).

A large swarm settled at the Djebel Groun (Aïn-Touta).

A small swarm passed Mac Mahon (Aïn Touta) flying N. W.

A swarm settled at Anza Sedira, Douar Oued Taga (Aurès).

Laying reported from 21 to 24 April near Khanga Sidi Nadji (Khenchela).

22 » » — Hatching reported at Hir Rebit (45 km N. E. of Ghardaïa).

Hatching reported at Frest el Bir (30 to 40 km N. Ghardaïa) of eggs reported on 22 March.

Laying reported in the Douars Barika (50 hectares) and Metkaouak (13 hectares) (Barika).

A swarm settled in the Douar Temchit (Batna) over 10 hectares.

A swarm coming from the S. E. settled at the Douar Bou Hamadou (M' Sila) and laid over 3 sq. km.

A swarm coming from the E. settled at Foum Zita, Douar Oulache (Arris).

A large swarm coming from the W. settled at the Douar Bouzina (Arris) and laid on the 25th at Draa Ras over 600 hectares.

Laying reported at Koudiat Ez Zaït, douars Hassaonas, Gherabas and Cheragas, over 4000 hectares (Saïda).

23 » » — A large swarm coming, from the S. E. passed over Ras el Aïoun (Belezma) and flew S. W.

A swarm coming from the S. circled above the Douar Ouled Si Mancor (Aïn El Ksar) and departed at 4 p. m. towards the S. A few isolated individuals remained on the ground.

A swarm coming from the W. (Morocco) settled at the Douar Thalsa des Beni-Ouassine (Marnia), left on the 24th to settle again 7 km W. of Marnia, covering 3 × 2 km. Some copulation.

23 April 1933 — A swarm coming from the S. E. settled at Bir Khobana(M' Sila) and laid over 50 hectares. Departed to settle again at Chott Banoiu (M' Sila) where it laid over 40 hectares. Flew towards the N. E. to settle again at Bir Souid (M' Sila).

A swarm settled at Boukhemissa (M'Sila).

Laying reported at the Douar El Kantara (Aïn-Touta) over 100 hectares.

Swarms settled in the N. of the Mixed Commune of Aïn-Touta laid over 1000 hectares.

24 » » — Large swarms settled at the Douars Maâdid (over 10000 hectares) and Mekarta (over 2000 hectares) (Maâdid). Copulation.

Hatching reported in the regions of Négrine and Ferkane (Tébessa).

A swarm settled at the Douar Ouled Tebeu (Rhira) and dispersed in flying away.

A swarm settled at Chergui (Aïn-Touta) over 30 hectares.

A very large swarm coming from the S. settled to the N. of the Douar Djemmora (Aïn-Touta). Copulation.

A small swarm settled at Guerouagu, Douar El Ksour (Aïn-Touta). Copulation.

A swarm coming from the N. W. passed Mac-Mahon (Aïn-Touta) at 1 p. m. flying S. E.

Laying reported at Ben Nour, Chabet Temaskilte, Draa el Kharfane, Kef Tir (Aurès) over 550 hectares.

Laying reported in the Douar Bouzina (Aurès) over 30 hectares.

A swarm coming from the S. settled at the Douar Taglaït (Maâdid) and laid over 20 hectares.

Laying reported at the Douar Maâdid (Maâdid) over 50 hectares.

Laying reported at the Douars Oulad Khaled (1100 hectares), Roumana 100 hectares), Ouled Ahmed (100 hectares), Oulad Sidi Ziane (600 hectares) (Bou-Saâda).

Swarms reported in the Douars Tadjemout and Mezaourou (Slissen).

Laying reported in the Douars M'Doukal (1,250) hectares), Berhoum (900 hectares), Magra (1050 hectares (Barika).

A small swarm coming from the S. W. settled at Mechta Bouari, Douar Marcounda (Bélezma) and flew S. W.

Hatching reported from the 24th to the 26th at Djiret El Tmar, El Dahak, Djield, Mekhazen, Oued Gharghar, near Seïar (Khenchela).

25 » » — Laying reported at Ras Logabi, 5 km S. E. of Doucem over 800 × 300 m, Noumeur, 12 km E. of Doucem over 700 × 300 m, Oued El Ozen, 10 km E. of Doucem over 600 × 200 m, (Ouled Djellal).

25 April 1933 — Laying reported at Marguebetir and Foum et bab, Douar Bou Thaleb (Rhira) over 10 hectares.

A swarm settled at the Douar Beni Ouassine (Marnia) flew away and settled near Marnia.

A swarm coming from the E. settled at El Ghaba and Lebeghil, Douar Saïda (M'Sila) and laid over 60 hectares.

Laying reported at Oued el Ach, 25 km S. W. of Sidi Khaled over 4 × 1 km; Kharchfi, 31 km W of Ouled Djellal over 2 × 0.500 km; Djouf, 6 km N. of the Puit Rebih over 1 × 0.500 km (Ouled Djellal).

A small swarm coming from the S. W. settled near Ampère. Departed on the 26th at 4 p. m. flying S. W.

A small swarm coming from the S. W. circled over El Madher (Aïn-el-Ksar) for 3 hours and flew S. W.

Laying reported at Chouf Sebaa (225 hectares), Douar Berhoum; at Mermar (3 hectares), Douar Barika; at Feidj Remel Lebtama and Djerat Oued Barika (12 hectares), Douar Djezzar ; at Oualjet Kef Saman Hormlia (15 hectares), Douar M' Gaous (Barika).

A large swarm coming from the S. passed over Douar M'Douka (Barika).

Swarm coming from the E. settled and laid at Baniou over 14 sq. km and Bahouasse Debabsa over 10 sq. km, Douar Saïda (M'Sila).

A swarm settled at Zelzala and Araoh (Slissen).

Laying reported at Ouled Mimoun Gheraba, Ouled Sidi, Hamza, Ouled Ali ben Ameur (Aflou).

A large swarm coming from the S. passed over Douar Yabous (Khenchela) flying N.

Very large swarm coming from the S. E. reported at the Douar Selamates (Sidi-Aïssa).

26 » » — General hatching in the region of Seiar (Khenchela).

A swarm coming from the S. settled at the Douars Bou Thaleb and Hamma (Rhira) and laid.

A swarm coming from the S. passed over the Douar Tanzaret (Rhira) flying N.

Swarms coming from the N. settled at the Douars Oued Abdi and Menaa (Aurès).

Laying reported at Draa Laghbar (25 hectares), Douar Barika, and Chabet Guelia, Draa Sba, Argoub Lakil, ben Seghir, Rakbat Larais el Melab (130 hectares), Douar Magra (Barika).

A swarm coming from the E. settled at the Douar Sidi Hadjeres (Sidi-Aïssa).

Swarms reported at the Douar Briket (Aïn-Touta).

Laying reported at the Douars Taglaït (50 hectares) and Mekarta (300 hectares (Maâdid).

27 April 1933 — Swarms reported at Tifakhssit, Chebket Saïdaa, Chebket Guers, Oued Hamman, Oued Khelidj and Guelbbour laid over 26 hectares (Barika).

A rather large swarm settled at Djebel Metlili, Douar Tillatou (Aïn-Touta) and laid.

Laying reported at Djebel Groun (Aïn-Touta) over 200 hectares.

Large swarm reported at the Douar Oulache (Aurès).

A large swarm coming from the S. settled at Bouzerine, Douar Tighanimine (Aurès) and laid over 100 hectares.

Swarms coming from the E. settled and laid at Khelidj Sfer Latouta, Kef Drabine, Douar Seggana (50 hectares) and Feidj Rih, Douar Sefiane (25 hectares)(Barika).

28 » » — Serious laying reported in the Douars Selamates and Hadjères (Sidi-Aïssa).

A swarm coming from the S. passed at the Djebel Afoul (Sidi-Aïssa) flying N.

A swarm coming from the S. E. settled at 5 p. m. at El Ghouiba, Douar Megane (Chellala) over 20 hectares.

A swarm of 2 × 4 km coming from the S. settled at Djebana Hamza and Ras Begh dad, Douar Mégane (Chellala) flying N. E.

A swarm settled at the Douar Taguedid (Aumale) and laid at Oued el Hassi over 100 hectares.

Laying reported at the Douar Oued Sidi Abid (Tébessa) over 50 hectares.

A very large swarm passed at the Djebel Bougafer (Tébessa) flying N.

Laying reported at Tihamanine, Douar Ksour over 15 hectares, at Mechta El Kherza, Douar Maâdid over 150 hectares (Maâdid).

Swarm reported at Belfil, Douar Ksour (Maâdid).

A small swarm coming from the S. W. settled near Corneille (Belezma).

A small swarm coming from the S. W. settled at Toumiat, Douar Ras el Aïoun (Belezma) over 50 hectares and laid ; left again at 10 a. m. flying W.

29 » » — Laying reported at Oued Louza (25 hectares), Douar Seggana, at the Douar Barika (60 hectares), at the Douar Djezzar (110 hectares) ; at the Douar N'Gaous (5 hectares) (Barika).

A small swarm coming from the S. settled near Bernelle (Belezma).

A swarm coming from the S. W. passed at the Douar Aïoun el Beramis (Saïda) flying N. E.

Swarms coming from the S. settled at the Douars Medjana and Mansourah (Bibans).

29 April 1933 — Hatching reported at the Douars Branis and El Outaya (Aïn-Touta).
A swarm settled at Seguettifa, Douar Kherabcha (M'Sila) and laid over 500 hectares.
Laying reported in the Djorf Baroud (Marnia).
A small swarm settled near the centre of Marnia. Left again on the 30th, flying S. W.

30 » » — A swarm coming from the S. settled about 5 p. m. between Dellys and Tigzirt over 10 hectares. Left again on 1 May at 11 a. m., flying S. W.
A rather large swarm coming from the S. E. settled in the Oueld Chelif, Douar Djendel (Le Djendel).
A small swarm coming from the S. driven by a S. wind settled at Takrits, Douar Soumman (Soummam).
A small swarm coming from the S. passed at the Douars Mhamid and Oued al Abd (Cacherou).
Large swarms driven by a S. wind settled in the Douars Kef Lakdar Tirghane, Titteri (Aïn-Boucif).
Swarms coming the S. W. passed at the Douars Megane, Serguine and Ouerg (Chellala) flying N. E.
Laying reported in the Beni Ouassine (Marnia).
A small swarm coming from the W. (Morocco) settled at Hechera el Djadj (12 km S. of Marnia) over ½ sq. km.
A small swarm settled near Zoudj-el-Beghal (Marnia). Copulation.

TUNISIA.

11 April 1933 — Large swarm reported at Metlaoui, region of Tamerza.

14 » » — Large swarm reported at Feriana.
A yellow swarm coming from the W. settled at Shirat (100 km S. of Thela) and laid.

17 » » — A yellow swarm coming from the W settled at Ennaga (100 km S. of Thala) and laid.

19 » » — A swarm coming from the S. W. settled at 3 p. m. at Khanguet Goubeul (75 km S. of Thala). Left at 5 p. m. flying N. W.

20 » » — A large swarm passed 80 km S. W. of Sfax.

21 » » — A yellow swarm 15 km in width coming from the S. W. passed at 10 a. m. 85 km S. of Tataouine flying N. E.
A small yellow swarm coming from the S. W. passed over Oued Bel Kricheb (45 km S. W. of Médenine) flying N.W.

28 » » — Swarms from the S. E. settled at El Achrat and Ras el Oued, Choumrassem, 30 km N. W. of Tataouine and laid. Hatching reported at Kenchir Trouiret (20 km S. of Ben Gardane).

Morocco.

6 April 1933 – Laying reported in the region of Sidi Mimoun, Dar Caïd Bachir, region of Oudjda.
Part of the swarms having laid at Sidi Mimoun, Dar Caïd Bachir, region of Oudjda, flew W. and S. W. and settled on the 8th at the Djebel Takroum, region of Oudjda. Copulation over 1200 hectares.

8 » » — Part of the swarms settled at the Djebel Takroum left, flying towards Taourirt, region of Oudjda.
A swarm coming from Moul el Bacha settled in the plain of Ouassa near Sakka, region of Taza.
A swarm coming from the S. E. (Taourirt) crossed the Moulouya and settled near Zireg (region of Taza).
Swarms coming from the S. E. (El-Aïoun) were killed in the Spanish zone.

9 » » — The swarms reported on the 8th at Ouassa and at Zireg departed and collected again into a swarm of 10 × 5 km flying towards Djebel Fizane and settled again on the 10th at Cedra el Mehara and Tizi Ghebeune, covering the ground with other swarms from Griou Jou to Zag.

11 » » — Two swarms of 4 × 3 km and 4 × 6 km settled near Camp Berteaux, region of Oudjda, and flew towards Sakka.
Laying reported in the Oued Za to the S. E. of Taourirt, region of Oudjda, over 4,600 hectares.
A swarm coming from the Beni-Snassen settled near Camp Berteaux, region of Oudjda.
Laying reported at Camp Berteaux, region of Oudjda, over 1500 hectares.

12 » » — Laying reported at the Djebel Metmat to the N. W. of El Aïoun, region of Oudjda, over 2000 hectares.
A swarm settled in the plain of the Amgad, region of Oudjda, and laid over 2000 hectares.
A swarm settled on the 8th at the Djebel Takroum, region of Oudjda, laid over 2500 hectares.
Swarms reported on the 9th at Cedra el Mehara (W. of Camp Berteaux) departed on the 12th towards the S. W. and settled at the Djebel Guelb el Bour, region of Taza.
Swarms reported on the 9th at Griouiou, Zag, Sounas departed flying S. S. W., invading from the 12th to the 16th the region of Zireg at the Oued Ouizert and the Djebel Tisinfelt, region of Taza.

16 » » — Swarms circling round Sakka, region of Taza, flew away in a northerly direction (Spanish zone) and returned S.
Swarms coming from the S. W. settled at the Oulad Hakkoune, region of Taza.

17 April 1933 — Swarms passed over Madenet flying towards Chebka 30 km S. W. of Sakka, region of Sakka.

18 » » — Laying reported at Oued el Assas (15 km N. E. of Taourirt) over 400 hectares, at Cheif el Archa (4 km S. W. of Mestigmeur) over 400 hectares ; on the côte 896 (25 km S. E. of El-Aïoun) over 200 hectares, region of Oudjda.

The swarms reported in the region of Sakka, region of Taza, progressing towards the S. S. W.

A swarm coming from the N. W. settled at Hassi Amedlane, region of Taza, and flew away again towards Hassi.

19 » » — A swarm coming from the N. E. settled at Tiamranine-Hassi, region of Taza. Flew S. W. on the 21st, then returned towards Hassi.

20 » » — A yellow swarm coming from the E. settled at Metroh, to the S. E. of El-Aïoun, region of Oudjda, and laid over 300 hectares. Flew W. on the 25th.

21 » » — A swarm coming from the N. settled in Hassi Guenbour, region of Taza. Departed on the 24th and settled again Sidi Amar.

22 » » — A swarm coming from the S. settled at Aïn Kikeb, region of Taza, and laid until the 25th.

A swarm coming from the N. E. settled at Sidi Abderhamane, region of Taza.

A swarm coming from the W. settled at Koudiet Taaleb, region of Taza.

A swarm coming from the Moulouya settled at Zebouja, region of Taza, and flew away to the S. W.

23 » » — Two swarms coming from the Hassi and from Sidi Ameur settled at 4 p. m. at Boukalane, region of Taza. Laid on the 24th.

24 » » — A swarm coming from the S. E. settled at Sidi Ali ben Abdelkader, region of Taza.

A swarm settled at Sidi Mohamed, region of Taza.

Two swarms coming from the N. W. and N. E. settled at Telaoui, region of Taza and then flew S. W. A swarm coming from the N. settled at Aïn Kila, region of Taza and laid.

Hatching reported at Sidi Bou Naga (E. of Marrakech).

A swarm of 1 × 1.5 km coming from the S. E. settled at Tirchine to the W. of Berkane, region of Oudjda.

25 » » — A yellow swarm coming from the N. (Spanish zone) settled at Tirchine to the W. of Berkane region of Oudjda uniting with that which settled the preceding day.

Hatching reported over 2 hectares at the Beni-Moussa Latach, 2 km to the N. of the old Sidi Bouhouria-Aïn Sfa track, region of Oudjda.

A swarm settled at Ouled Mohamed, region of Taza, flew S.

27 April 1933 — Hatching reported over 1 hectare near Sidi Ali Moudda, region of Oudjda.
A yellow swarm coming from the N. passed over the E. outskirts of Taza flying S.
28 » » — A swarm settled at Oued Islay, region of Oudjda, laid.
A swarm coming from the E. settled to the W. of the Djebel Saïd, region of Oudjda and laid. Left on 2 May flying towards Sidi Moussa where laying began.
29 » » — Hatching reported between Kraael Halloufa and Tanembourt (10 km to the N. of El Aïoun) and at Takyalet, Cheik el Aycha and Oued el Assas, 25 km S. W. of El Aïoun, region of Oudjda.
A swarm settled at Hassi Ouenzga, region of Taza, flew towards the N. E.
A yellow and brown swarm of 3 × 1 km settled at Msoun, region of Taza.
Laying reported at El Smar and Hassi, region of Taza, over 134 hectares.

Algeria: The Moroccan Locust (*Dociostaurus maroccanus*) (1).

12 April 1933 — A few egg-pods found at El Mecif, Douar Taïcha, Aumale.
15 » » — Hatching reported in the region of Aïn Tiddès, Douar Sefioun, Le Télagh over 4 hectares.
28 » » – Hatching reported at Afaid el Ahmar, Douar Oum el Djellil, Boghari over 5 hectares.
29 » » — Hatching, not dense, reported at 14 km to the N. W. of Berthelot over 4 hectares.

Egypt: Locust Report (2).

During May 1933 the country remained free from *Schistocerca gregaria*, Forsk.

Late in the month (on the 28th) a sack full of *Anacridium aegyptium*, L. was collected on Acacia trees in a valley running into a small village in Esna district lying on the western bank of the Nile at latitude 33° 35' longitude 25° 17'.

The sudden appearance of such a small swarm of *Anacridium* is not of usual occurrence and is interesting to note.

The locusts were yellowish in colour and females' ovaries full of eggs.

(1) Communication from the Government General of Algeria (Direction des Services Economiques) to the International Institute of Agriculture.

(2) Communication from the Director of the Entomological Section, Ministry of Agriculture, Egypt, to the International Institute of Agriculture.

Eritrea: The Tropical Migratory Locust (*Locusta migratoria migratorioides*) (1).

During May 1933 no swarm of the tropical migratory locust made its appearance in the Colony.

Southern Rhodesia: Locust Invasion, 1933 (2).

Montly Report No. 5, April, 1933.

1. *Nomadacris septemfasciata.*

The great majority of the surviving swarms of this species have now attained maturity and flying swarms are traversing the colony in various directions. In most districts a few belated hatchings were still in the hopper stage at the end of the month.

Large swarms are reported as having entered the colony from the Moçambique Co's territory and some have left the colony in a westerly direction flying into Bechuanaland.

The flights do not appear to be definitely of a migrationary character but the general drift appears to be westerly to northerly. A few movements in other directions are reported. Practically the whole of the colony except the extreme southern position is involved.

Newly matured fliers appear to keep to the same vicinity for about two weeks before making off. During this period they join up with other similar swarms.

2. *Locusta migratoria migratorioides.*

No specimen from swarms of this species have been received since April 4th and it is uncertain whether any remain in the colony. A few adults have been noted associated with swarms of the red species.

It is of interest that adults of this species confined in cages have assumed breeding coloration and have been observed mating. The ovaries also showed considerable development by the end of the month.

3. Feeding.

The newly matured swarms are reported as feeding voraciously.

4. Parasites.

Threadworms have been found in hoppers of the 4th, 5th and 6th stages and in adults in the Lomagundi district. Ir may be noted that this was the only district in which these worms were found in adults of the egg-laying generation in January.

(1) Communication from the official correspondent of the Institute, Dr. Rolando Guidotti, Chief of the Agricultural Bureau of Eritrea, transmitted by the Government of the Colony.

(2) Communication from the official correspondent of the Institute, Mr. Rupert W. Jack, F. E. S., Chief Entomologist, Department of Agriculture, Salisbury, Southern Rhodesia.

5. Destruction of Hoppers.

The campaign has been prosecuted vigorously throughout the month but is now drawing to a close. Returns to date indicate that well over 100,000 swarms, large, medium, and small, have been destroyed by the Government operators and by farmers. Some of the swarms have been very large. It is estimated provisionally that the average amount of poison used per swarm destroyed is somewhere near 40 gallons.

A complete clean up of the swarms throughout the colony has been an impossibility, but the destruction achieved must undoubtedly be reflected in the present position. Unfortunately, with heavily infested states on three sides of the colony the position is still very grave and the outlook for next wet season is decidedly unfavourable.

6. Damage to Crops.

No serious losses of European crops have been reported during the month but damage to native crops has occurred in various districts. The native crops over a considerable portion of the colony have failed on account of drought and in these areas locust damage has not materially affected the position. Most of the crops in the areas where the rainfall has been sufficient have been protected but appreciable damage has been sustained in certain native reserves in this category.

The main maize crop is now sufficiently matured to be safe from damage from flying swarms but the outlook for winter crops is far from reassuring.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

Germany. — A Presidential Decree of 22 April 1933, relating to the protection of public health, with regard to plant protection and the commerce in fungicides, insecticides and poisons, authorises among others the Government to warn the general public or private individuals in order to protect them from possible harm caused by such products. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1933, 13. Jahrg, Nr. 6, S. 47).

Germany (Province of Brandenburg). — By Police Ordinance of 22 March 1933, which came into force on 2 April 1933, and concerned the control of potato wart disease [*Synchytrium endobioticum*], in the circumscription of Ostprignitz only varieties of potatoes resistant to wart disease and having received official recognition as such may be grown and only on land with a maximum extent of half a hectare. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1933, 13. Jahrg., Nr. 5, S. 38).

Germany (Brunswick). — By Decree of 25 January 1933 any owner or holder of elm trees who shall find his trees to be attacked by *Graphium ulmi* is obliged to report it to the competent police authority and to carry out the orders of the latter without delay. (*Amtliche Pflanzenschutzbestimmungen*, Berlin 1933, Bd. IV, Nr. 6, S. 220-221).

*** By Decree of 3 March 1933 owners and holders of land are obliged to destroy the inflorescences (capitula) of coltsfoot (*Tussilago farfara*) appearing in March and April.

The local police and forest police authorities will have the right of supervision and will ensure that the required destruction is carried out by the persons concerned. In the case of failure to comply within a specified time fixed by the police the persons concerned will be liable to penalties. In the case of repeated default the necessary work will be carried out by the police at the expense of the persons concerned. (*Ibid.*, S. 221-222).

Germany (Lippe). — The Government has published, dated 1 February 1933, instructions providing for the application of the Decree of 25 March 1931 concerning disinfection by means of violent poisons. These regulations define the exact rights and duties of the various medical and administrative police authorities.

A detailed text is established which is to serve as a public warning in places where hydrocyanic acid gas is used for purposes of disinfection. A form is given which should serve as a model for requests for permits to use violent poisons. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. April 1933, Bd. IV, Nr. 6, S. 222-226).

Germany (Mecklenburg - Schwerin). — With a view to the protection of bees, by Decree of 1 February 1933 it has been forbidden to treat flowering fruit trees with arsenical products. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. April 1933, Bd. IV, Nr. 6, S. 227).

*** By Decree of 20 February 1933 it has been made compulsory to clear thistles (*Cirsium arvense*) before their flowering period. (*Ibid.*, S. 227).

Germany (Prussia). — By Ministerial Decree of 4 March 1933 owners of pigeons must during the period from 1 April to 15 May prevent their pigeons from entering newly sown fields and gardens. Owners and holders of land and persons having a shooting license are authorised to regard as their own property any pigeons found in fields or garden during the period specified. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1933, 13. Jahrg., Nr. 5, S. 38).

*** A Decree of 10 March 1933 regulating the protection of animals and plants came into force on 1 April 1933. (*Ibid.*, S. 38).

Germany (Schleswig - Holstein). — By Police Ordinance of 27 March 1933 it is forbidden to plant or cultivate species of *Berberis* or any variety of *B. vulgaris* within a radius of 200 metres round cultivated fields. Plants of *Berberis* growing wild in the zone indicated must be destroyed. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1933, 13. Jahrg., Nr. 6, S. 47).

Germany (Württemberg). — The Ordinance of 14 August 1932 contains regulations providing for the application of violent poisons, similar to those adopted for the same purpose in Lippe [see above]. The present ordinance is also concerned with the use of ethylene oxide (T-gas). *Amtliche Pflanzenschutzbestimmungen*, Berlin, s. April 1933, Bd. IV, Nr. 6, S. 229-231).

Uruguay. — By Decree of 30 August 1932 departmental Commissions for the destruction of locusts [*Schistocerca paranensis*] have been formed in each of the departments of the Republic with the exception of Montevideo. When they are installed these departmental Commissions will proceed to appoint sectional and district Commissions for their respective juirisdiction. (*Ministerio de Industrias. Dirección de Agronomía. Publicación Mensual*, Montevideo, Enero-febrero de 1933, año VI, n.os 1-2, págs. 18 y 19).

*** By the Law of 18 October 1932 the sum of 100 000 ' pesos ' is allotted for the expenses of locust control. The national administrative Council has at its disposal also a sum not exceeding 50 000 ' pesos ' for assistance for farmers who having lost their whole crops have not the necessary means for their support. The grants will be distributed by the departmental Labour Commissions. (*Ibid.*, pág. 21).

*** By Decree of 20 October 1932 a central Commission for locust control was formed. (*Ibid.*, pág. 21).

*** By Decree of 22 December 1932 a Commission was formed for continuing the studies started by Dr. Franz Fielitz on *Coccobacillus acridiorum* for the destruction of locusts. (*Ibid.*, pág. 24).

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Prof. ALESSANDRO BRIZI, *Segretario generale dell'Istituto, Direttore responsabile.*